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IS 6597 (2001): Glossary of Terms Relating to Fragrance and Flavour Industry [PCD 18: Natural and Synthetic Fragrance Materials]



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Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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भारतीय मानक
सुगन्ध एवं सुवास से सम्बंधित
उद्यम के लिए शब्दावली
(दूसरा पुनरीक्षण)
Indian Standard

GLOSSARY OF TERMS
RELATING TO FRAGRANCE AND
FLAVOUR INDUSTRY
(*Second Revision*)

ICS 71.100.60

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BUREAU OF INDIAN STANDARDS
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NEW DELHI 110002

FOREWORD

This Indian Standard (Second Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Natural and Synthetic Fragrance Materials Sectional Committee had been approved by the Petroleum, Coal and Related Products Division Council.

This Indian Standard was first published in 1972 and subsequently revised in 1988. Keeping in view the latest advancement in perfumery/flavour trade, manufacture and practices, it has been decided to revise this standard again in terms of the vocabulary used in fragrance and flavour industry. The Committee responsible for formulation of this standard felt that there is a need to widen the scope of this standard to incorporate more terms commonly associated with fragrance and flavour industry. Thus, several new terms which are commonly used in the industry have been added further. It is intended chiefly to cover the technical definition of terms, and it may not, necessarily, include all the legal meaning of the terms.

This standard was earlier titled as 'Glossary of Terms Relating to Natural & Synthetic Perfumery Materials'. Perfumery itself forms a part of fragrance and flavour industry hence title is changed to 'Glossary of Terms Relating to Fragrance and Flavour Industry'. Therefore, in this revision terms related to fragrance and flavour industry are included which comprises of natural ingredients (essential oils, oleoresin, balsams, resinoids and absolutes) and synthetic aroma chemicals for producing finished fragrance and flavour composition. Since flavours and fragrances are mixture of odoriferous substances as mentioned above.

In the preparation of this glossary, most of the terms currently in use in fragrance and flavour trade and industry together with the synonyms and more common terms in vogue locally and also in other countries have been included.

In the preparation of this glossary, useful assistance has been derived from the following international literature and publications:

- a) A user's Guide to Perfumery — Published at the International Perfumery Centre of Proprietary Perfumes Ltd (presently called QUEST INTERNATIONAL LTD), Ashford, Kent, England.
- b) Perfumes — Art, Science, and Technology, edited by P. M. Muller and D. Lamparsky, Elsevier Applied Science, London & New York (1991).
- c) Perfumery — Practice and Principles by Robert A. Kalkin and J. Stephan Jellinek, John Wiley & Sons Inc., New York, Chichester, Brisbane, Toronto, Singapore (1994).

The Composition of the Committee responsible for formulation of this standard is given in Annex A.

Indian Standard

GLOSSARY OF TERMS RELATING TO FRAGRANCE AND FLAVOUR INDUSTRY

(*Second Revision*)

1 SCOPE

This standard defines the terms relating to fragrance and flavour industries comprising of natural ingredients (essential oils, oleoresin, balsams, resinoids, absolutes) and synthetic aroma chemicals for producing finished fragrance and flavours composition.

2 REFERENCES

The following standard contains provision which through reference in this text constitutes provision of this standard. At the time of publication, the edition indicated was valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below:

<i>IS No.</i>	<i>Title</i>
5126 : 1996/	Sensory analysis — Vocabulary
ISO 5492 : 1992	(<i>first revision</i>)

3 TERMINOLOGY

A

Absolute — Is a prepared natural aroma raw material. An ethanolic extract of a concrete, or an oleoresin or a resinoid which contains the maximum concentration of odoriferous components and is free from natural waxes and/or any solvent used in the processing. Absolutes are highly concentrated, entirely alcohol — soluble and usually liquid aroma materials. In exceptional cases, they can be solids or semi-solids (for example, sage clary absolute, beeswax absolute).

Acidic — Sharp and sourish odour character.

Acid Value — It is numerically equivalent to the number of milligrams of potassium hydroxide required to neutralize the free acids present in 1 g of the material.

Acrid — Sharp and harsh odour character; bitterly pungent.

Acute Toxicity — See “Toxicity, Acute, Chronic, Sub-Chronic”.

Adulterant — Any spurious ingredient or material employed for mixing with a genuine aroma material.

Adulteration — It is the debasement of the quality of a aroma material by mixing with inferior or spurious materials.

After-Shave Lotion — Product consists of alcohol and water, along with small amount of fragrance to refresh, cool the skin and impart a feeling of well being.

After-Taste — The experience which, under certain conditions, follows the removal of a taste stimulus; it may be continuous with the primary experience or may follow as a different quality after a period, during which swallowing, saliva, dilution and other influences may have affected the stimulus substance.

After Sensation, Negative — After-image or after-taste in which qualities are the compliments of those originally and normally induced by the stimulus.

After Sensation, Positive — After-image or after-taste in which the qualities are the same as those originally and normally induced by the stimulus.

Aged — Refers to odours and other sensory properties that develop in fragrances and flavours (including raw materials) as a result of time and conditions of storage; may be desirable or undesirable.

Agrest/Agrestic — Odour characteristic reminiscent of that of the open fields (lavender, sage).

Alcohol Perfumery Grade, Denatured — Ethyl alcohol rectified to remove objectionable odoriferous components by suitable chemical treatments and/or fractional distillation and specially denatured for perfumery industry (*see* IS 4117 : 1973), by the addition of denaturants which will not add or contribute to any undesirable by-odours to it.

Alcohol Solubility — The solubility of a liquid fragrance/flavour material in ethanol of a known strength is commonly expressed as a number of volumes of ethanol of a known strength required to dissolve completely one volume of the liquid fragrance/flavour material.

Aldehydic — An odour note which is fatty or waxy or both, extremely powerful unless the source is diluted and pleasant only in very low concentrations.

Aldehydic Blend — Blends deriving their specific unique odour character through the superimposition of certain aroma chemicals called aldehydes.

Alkaline — A specific odour sensation associated with alkaline substances, for example, sodium carbonate (baking soda).

Allergen — Any substance that induces an allergic reaction.

Allergy/Allergenicity — Abnormal reactions of the body to substances normally harmless.

Alliaceous — Of or pertaining to the genus *Allium* or the family of Alliaceae, containing garlic, onion and leek having the smell of garlic or onions.

Almondy — An odour reminiscent of the smell of crushed, Bitter almonds (for example, Benzaldehyde)

Ambered/Ambery/Amber Note — A heavy full-bodied powdery warm odour recalling that of natural Ambergris.

Ambrosial — Exquisitely pleasing in taste or smell; delicious.

Ammoniacal — Pertaining to the odour of ammonia.

Anesthesia — Temporary impairment of senses of smell and taste.

Animal/Animalic/Animal Note — Odour reminiscent of either Musk Tonquin, Civet, Castoreum or Ambergris and contains a warm vibrant nuance. Odour or note with a sensuous character.

Anisic — Odour typical of the flavour of Aniseed given by the fruits of the herb such as *Pimpinella anisum*.

Anosmia — Lack or impairment of sensitivity to odour stimuli.

Antiseptic Note — Odours connoting antibacterial/bactericidal preparation/products.

Appearance — The visual properties of a fragrance/flavour ingredient including colour and consistency.

Aroma — Odour sensation experienced by the olfactory nerve. Some of olfactory impressions derived from the volatile substances of a food product. Differs from odour in this respect that many of these substances are first released through chewing, warmth of the mouth, etc, and only then contribute to the sensation via the throat-nose-duct.

Aromatic — Possessing a fragrant, slightly pungent, aroma usually pleasant.

Aroma/Aromatic Chemical — Organic chemicals derived by organic synthesis or as an isolate from natural essential oils. These can possess either benzenoid

structure or aliphatic chain structure and used as a raw material in fragrance/flavour industry. Such chemicals may have strong to negligible odour.

Aromatic Plant — Plant bearing essential oil with a characteristic aroma.

Aromatic Water — Odoriferous aqueous condensate of hydro-distilled and/or steam-distilled essential oil of vegetable origin, which is fully dispersed in the condensate water.

Assessment — A judgement or an evaluation.

Attar (Indian) — A fragrance concentrate which is characteristic of, and derived from either a single flower or a mixture of flowers and other parts of plant (fresh or dried) or distilled in the oil of sandalwood/solvents like mineral oil or other chemical as the base.

Autosmia — Disorder of the sense of smell in which odours are perceived even when none are present.

B

Balanced — Olfactory impression generated by the use of just right amounts of one constituent or another producing a harmonious odour.

Balsam — A natural product. An odoriferous exudate derived from plants/trees which flows from the trunk of the tree naturally or is induced artificially by the incision of the trunk.

Balsamic — Characteristic mild, sweet, warm odours reminiscent of natural Vanilla with a slightly woody background.

Basic Tastes — Generally agreed to consist of four — sweet, sour, salty and bitter.

Batch — A specific quantity of material of homogeneous composition, manufactured in a single operation or a series of operations according to a standard process which has been developed for the optimal manufacture of this material.

Batch Number — A combination of digits and/or letters, printed, stamped or written on labels or packaging materials, which permit the unambiguous identification of the batch as well as tracing and review of all stages of its production history.

Bitter — A primary taste sensation, for example, quinine.

Bland — Having no distinctive taste or odour property.

Blend — Combination of two or more odoriferous materials producing a harmonious odour character. Any harmonious mixture of fragrance materials.

Blend, Aldehydic — See "Aldehydic Blend".

Blend, Cologne — Any harmonious combination of fragrance material, the main odour characteristics of which are derived from citrus essential oils and/or lavender oil.

Blend, Oriental — A fragrance blend characterized by heavy, full-bodied, sweet balsamic, precious woody and animalic notes. A blend of fragrance complex culminating in an intense heavy, full-bodied fragrance.

Blend, Spicy — Any fragrance combination falling into either a floral spicy such as carnation or having herbal, spice characteristics or having spicy overtones.

Blend, Woody — Any fragrance dominated by characteristic woody odour notes encompassing other scent tones.

Body — Refers to 'fullness or richness' in the middle portion of fragrance such as in musical tone and connotes 'the main fragrance theme'.

Boiling Point — The boiling point of a liquid is the temperature at which the vapour pressure is equal to the atmospheric pressure.

Boiling Range — See "Distillation Range".

Bouquet — Connotes generally a harmonious combination of two or more floral notes. However, the term today encompasses other fragrance complexes besides florals such as herbal/leafy/woody balsamic notes. Therefore, today a bouquet is used to describe a combination of two or more fragrance complexes.

Burnt — A smoky or tarry odour or flavour caused by excessive heating during distillation or drying empyreumatic.

Butyric — Odours pertaining to or derived from butter.

By-Note/By-Odour — A temporary or permanent odour effect additional to the main pattern of odour associated with the fragrance/flavour material.

C

Camphoraceous — A peculiar aromatic smell/taste reminiscent of camphor.

Caramelised/Caramellic — The flavour or aroma produced when sugars are heated or treated with acid.

Carbonyl Value — It is numerically equivalent to the number of milligrams of potassium hydroxide, that is equivalent to the amount of hydroxylamine required to oximate the carbonyl compounds present in 1 g of the material.

Carcinogenicity — Adverse effects produced by a substance that encourages the growth of cancer (tumour growth) due to the abnormal changes induced in the genes of the body cell.

Cardboardy — Having an odour or flavour reminiscent of cardboard.

Cell — A unit of plant tissue.

Cellular — Composed of cells.

Characteristic — Typical, distinctive quality of a fragrance or flavour ingredient or product.

Cheap — Odour impression suggestive of low price in relation to the value or inferior connotations.

Cheesy — Characteristic odour reminiscent of cheese (for example, Propionic acid).

Chemical Flavour — Characteristic impression, for example, imparted by chlorine, iodine, phenol, etc.

Chemical Note — The term refers to the odour effect produced in an unbalanced fragrance due to the excessive use or preponderance of synthetic aroma chemicals.

Choking — Unpleasant sensation of suffocating irritation of the throat produced by compounds such as Aldehyde C8 or Aldehyde C11.

Chromatography — A method of chemical analysis in which a mobile phase, carrying the mixture/substance to be analyzed, is caused to move in contact with a selectively adsorbent stationary phase. During the progress of the mobile phase the components being carried become adsorbed on the stationary phase and separated, eluted and can be identified; in some cases they can be quantified.

Chronic Toxicity — See "Toxicity, Acute, Chronic, Sub-Chronic".

Chypre — A fragrance with mossy-woody odour complex with a characteristic sweet citrus top note, frequently encompassing some floral tones.

Citrus — Refers to odours having the character of citrus fruits such as Lime, Lemon, Orange, Mandarin, Grapefruit, etc, which imparts a freshness to a fragrance.

Civetty — Typifies the 'animalic' type of note exhibiting an offensive and diffusive faecal odour.

Classical — Refers to well balanced fragrance creation that have a relationship to a time-tested standard.

Clear — With reference to visual properties of a liquid, free of turbidity; unclouded.

Cloudy — Having turbidity; not clear.

Cloying — An odour that satiates the senses beyond a natural desire. Connotes one of the two odour effects (i) extreme or excessive sweetness or the ability of a scent to linger long after contact. A taste sensation that stimulated beyond the point of satiation leading

to a state of distaste due to excess. Frequently used to describe overly sweet products.

Coarse — Denotes a harsh, unpleasant odour or flavour.

Coeur — The term is used to denote the 'core' or the heart of a perfume composition.

Cologne — Name traditionally used for a blend of family mainly citrus and/or lavender fragrance in aqueous ethanol.

Cologne Blend — See "Blend, Cologne".

Comparative Judgement — Direct evaluation of one stimulus with another relative to a specified dimension, such as intensity or degree of liking.

Concentration — See "Rectification".

Concentration Perfume — See "Perfume Concentrate".

Concrete — A material derived from a single source of plant origin by extraction with a suitable solvent. It generally contains non-odoriferous constituents, such as waxes, colouring matter, etc, in addition to odoriferous components and is free from any solvent used in the process.

Condensate — Vapours generated during the distillation process, that have been condensed.

Condenser — Part of the distillation apparatus where the hot vapours are cooled and condensed for recovery.

Congeeing Point — It is the maximum constant temperature at which a liquefied solid resolidifies.

Conifer — Refers to 'refreshing, evergreen' odours characteristic of green Pine and Fir cones.

Contrast — Juxtaposition of two different sensations which results in intensifying or emphasizing their contrary characteristics. It may be of two types: (a) simultaneous or (b) successive.

Control — See "Standard".

Cooked — An odour or flavour that develops when a substance is exposed to heat. Often identifiable by a characteristic odour and/or a sweet taste.

Cool — Odour suggestion connoting a clean fresh, outdoor quality with possibly green, citrus-mint undertones.

Cooling — A physical sensation in the mouth resulting from the presence of in the mucous membrane due to the inhalation of a cold liquid or solid.

Creamy — Creamy flavours or odours refer to balanced richness.

Crude — Odour characteristic which is devoid of refinement and inartistic.

Cucumber/Cucumbery — Odour/flavour reminiscent of sliced cucumber, produced due to and attributed to the formation of the compound 2, 6 — non-adienal.

D

Depth — An odour with depth is one that is 'rich, full-bodied and profound' and long lasting.

Deterpenised Oil — Natural essential oils which are free from monoterpene and/or sesquiterpene hydrocarbons.

Difference Test — A method of sensory evaluation as a part of analysis test in order to know the difference between/among the samples with respect to a particular attribute except that of preference (consumer acceptance).

Diffusion — The characteristic of a fragrance to radiate and permeate the environment.

Diffusive — The ability of a fragrance or an odour to spread quickly when released from the bottle or container or radiate from the wearer and permeate the environment.

Dilution Index — Basically the method involves the determination of the identification threshold of the material under study. The dilution index is expressed in percent dilution or as a ratio. The dilution index of 1 percent (1 : 100) means that the material was just identifiable when made up in a 1-percent solution.

Dilution Test — Serial evaluation of changes in the intensity or character of various attributes as a material is given stepwise dilution in water or some other standard substance.

Discrimination — Perception of difference between two or more objects in respect of certain characteristics. A different response to stimuli which differ quantitatively or qualitatively.

Distillation — A process of evaporation and recondensation used for purifying or cleaning liquids.

Distillation, Dry — Distillation of semi-solid and solid materials in the absence of steam, water, or any other solvent.

Distillation, Hydro — Distillation of a substance carried out by direct or indirect contact with boiling water.

Distillation Range — It is the range of temperature within which a specified quantity/percentage of the material distils under specified temperature and pressure conditions.

Distillation, Steam — Distillation of a substance by passing wet or dry or superheated steam through it.

Distillation, Vacuum — Distillation of a substance under reduced pressure.

Distillation, Water — See "Distillation, Hydro".

Drum Note — Odour typical of the container used for packing of the perfumery material, for example, metallic/plastic notes if metallic or plastic containers are used for the purpose.

Dry — A term used to describe the absence of sweetness. Odours suggestive of dryness include woody, grassy, and ferny characters and also odours having a powdery character.

Dry Distillation — See "Distillation, Dry".

Dry Out — Final phase (residual odour notes) of the main fragrance after the main volatile constituents have evaporated.

Dull — Odour lacking in 'brightness' or 'clearness'. Uninteresting odour impression.

Duo Standard Method of Difference Testing — Two samples are identified on first presentation; then they are given again as unknowns for the observer to identify.

Duo-Trio Method of Difference Testing — One of the pair of samples is identified as the control and presented first. Then the observer receives two more samples as unknown in random order. The time interval may be varied as desired. Pick the sample which is different from the control.

Duplicates — Results from units of experiments produced under the same conditions.

Dusty — An odour sensation suggesting the drying, choking sensations of finely divided particles.

E

Earthy — Defined as the musty, wet forest odour/smell of freshly turned soil (for example, Veitvert Oil).

Empyreumatic — Smoky or tar-like in character.

Enfleurage — Process of extracting fragrance of fresh flowers by intimate contact with mixtures of purified fats preferably at low temperatures.

Essential Oil — It is a volatile oil derived from a single source of plant origin, such as leaves, petals, twigs, roots, bark, seeds, woods, fruit peels, etc, and obtained by any of the following processes such as hydrodistillation, steam distillation, dry distillation or expression.

Essential Oil, Synthetic — It is a composition bearing a close resemblance primarily to the odour of a specific naturally derived essential oil and is generally blend of natural essential oils/resinoids/concentrates/absolutes and synthetic aroma chemicals, but excluding animal or vegetable non-essential oils (that is, animal or vegetable fats) and not having a non-volatile residue in excess of 10 percent by mass.

Ester Value — It is numerically equivalent to the number of milligrams of potassium hydroxide required to neutralize the acids liberated by the hydrolysis of the esters present in 1 g of the material. It represents the difference between the saponification value and the acid value of the material.

Ester Value After Acetylation — It is numerically equivalent to the number of milligrams of potassium hydroxide required to neutralize the acids liberated by the hydrolysis of 1 g of the acetylated material.

Ethereal — Refers to odour notes which are highly volatile and reminiscent of diethyl ether or ethanol or acetone.

Evaporation — The process of changing from a liquid state to vapour state.

Evaporation Residue — Represents the percentage of fragrance/flavour material which is not volatile when heated on a steam-bath under specified conditions.

Exalting — Odour impression which is refined, subtle and elevating, for example, Musk odour notes.

Examiner — Any person participating in a sensory test.

Exotic — An impression suggesting novel character and foreignness not locally familiar.

Expert — Generally an individual acknowledged to be experienced and skillful in a special practice in the perfumery, flavour, food and beverage field, a specialist with special powers of discrimination, sensitivity and perspicacity, who usually confines his or her diagnostic judgement to a specific product under specific conditions.

Expression — The process of extracting essential oil from the plant cells by application of mechanical pressure.

Extract — A concentrated product obtained by treating a natural aroma material with a solvent or a mixture of solvents which is subsequently evaporated.

Extraction — The process of isolating essential oil with the help of a volatile solvent or water or steam.

Extract, Alcoholic — A French word which is now universally used in Perfumery, meaning an alcoholic

extract of odorous components of a pomade. It is generally used to mean the alcoholic solution of a perfume concentrate. In the modern sales terminology this could also mean a ready to use alcoholic perfume.

F

Faecal — An odour note reminiscent of faeces, which is the solid matter evacuated from the bowel during the normal process of elimination (for example, Indole, Skatole).

Faint — Odour characteristic which is lacking in distinctness and strength.

Fantasy Perfume/Note — Perfume composition or Odour notes not based on familiar/realistic odour notes but mentally conceived and based on fanciful imagination.

Fatigue — Conditions of organs or organisms which have undergone excessive activity with resulting loss of power or capacity to respond to stimulation.

Fatty — Odour typical of the edible fats.

FEMA — Flavour Extracts Manufacturers' Association, U.S.A.

Fermented — A product which has undergone anaerobic oxidation of carbohydrates by enzymatic action.

Fern/Ferny — Odours having special green quality punctuated with a woodiness from the stem.

Fine Fragrance — Fragrance which is neither coarse nor heavy, and having a subtle, and delicate/refined character (for example, fragrances used for personal adornment and personal care products).

Fire Point — The Fire point of a material is a measure of its thermal stability when heated in contact with air. It is the temperature at which the volatile products will support continued combustion.

Fishy — Having an odour or flavour resembling that of fish, such as trimethylamine.

Fixation — The property of a fragrance that prolongs the odour life and produces a continuity of odour.

Fixative — A substance which is compatible with and provides body and substantivity and rounds off a fragrant composition by regulating the rate of evaporation of its high volatile constituents. A substance or product that aids in achieving fixation of odour and prolonging the continuity of odour.

Flash Point — The flash point of a material is a measure of its thermal stability when heated in contact with air. It is the minimum temperature at which the volatile products are evolved at such a rate that they are capable of being set on fire in the presence of a naked flame but

not supporting combustion. This can be determined in an open vase (Cleveland Method, NGD C 18) or in a closed one (Pensky-Martens method, NGD C 30).

Flat — An odour of fragrance with weak sensory characteristics, lacking in lift, diffusiveness, character and distinction. Having little or no odour of flavour.

Flavour — A combined organoleptic sensation of aroma and taste on the palate. Total of sensory sensations perceived at the entrance of the alimentary and respiratory tract, consequently mainly sum of odour and taste, sometimes coupled with warmth, cold and mild pain.

Flavouring — Any substance such as an essence or extract, employed to give a particular flavour.

Flavour Memory — As used in the descriptive sensory analysis, an ability to recognize and identify many individual odours and flavours.

Flavour Profile Technique — A method of qualitative descriptive analysis of aroma and flavour. The method makes it possible to indicate degrees of difference between two samples on the basis of individual character notes, the degree of blending and overall impression of the product.

Floral — An odour impression which signifies the fragrance of a single flower or of a bouquet of flowers or the fragrance characteristic of an existing known flower type.

Foliage Odour — Odour notes characteristic of a mass of fresh green leaves.

Fore Runnings — Initial fractions of the distillate obtained during a distillation process.

Foreign Odour — Containing an odour not normally associated with the product.

Forest — An odour description used for denoting one or more of the various impressions given by a forest or woodland environment.

Fougere — A fragrance combining a dominant sweet notes with a mossy lavender and citrus characters. Perfume composition having a citrus/lavender top note with sweet powdery, rosaceous body with mossy/woody background.

Fractionation — The process of redistillation under suitable processing conditions by which an essential oil or crude reaction products is separated into various fractions.

Fragrance — A perfume composition with a pleasantness of smell exerting a sweet or pleasant influence on the user. Positive hedonistic sensation (pleasing).

Fragrance Compound — A judicious blend of fragrance ingredients, representing a specific fragrance formula.

Fragrance Ingredient — Any basic substance used in the manufacture of fragrance materials for its odorous, odour-enhancing or blending properties. Fragrance ingredients may be obtained by chemical synthesis from synthetic, fossil or natural raw materials or by physical operations from natural sources. The class comprises aroma chemicals, essential oils, natural extracts, distillates and isolates oleoresins, etc.

Fragrance Material — A fragrance ingredient or fragrance compound.

Fragrant — A pleasing olfactory quality; odours which are distinctly pleasant smelling.

Freezing Point — It is the temperature at which a liquid begins to solidify.

Fresh — An invigorating odour, reminiscent of the outdoors and typified by green fields, citrus orchards or sea breeze notes.

Fresh Distillation Note — Transient burnt/acrid, cooked odour notes found in freshly distilled materials.

Fruit Flavour/Essence — Suitably blended mixtures of flavouring materials, permitted chemicals and food colours, in a solvent medium of either ethanol or the permitted non-alcoholic solvents.

Fruity/Fruity Note — Typical odour of the kind given by sound, fresh/whole edible fruits in their natural conditions and picked at their optimum stage of ripeness, or by crushed fruits and by fruit juices. Fruity odours occurring in nature are not exclusive to fruits, but are also found in flower, herb and other fragrances. The impression of fruit odours is within the fragrance theme.

Full Bodied — A well-rounded out fragrance that possesses depth and substantivity.

Fungal — Odours suggestive of dampness, moulds, mushrooms and fungi. Odours associated with the aroma of undergrowth in which fungi thrive. This odour can also form an element of 'forest' type of odour note.

G

Gas Chromatography (GC) — It is an analytical procedure which depends on the principle that different materials (in their vapour state) pass through a packed/capillary column of an inert material at different rates. The stationary phase consists of a narrow tube containing support material of uniform size (for example, diatomaceous earth) that has been coated with a non-volatile liquid, the whole apparatus being maintained in a thermostatically-controlled oven. The sample to be analyzed is carried through the tube in an inert gas

(for example, helium, hydrogen or oxygen-free nitrogen). Solid and liquid samples are vaporized before introduction on to the column and components in a mixture selectively adsorbed/partitioned; some pass through more quickly than others. The use of very sensitive detectors enables gas chromatography (GC) to be applied to sub-microgram quantities of material. GC requires standard samples with their data to compare for identification.

Goaty — Odour having a strong goatish smell. *See also* "Hircine".

Grading — Sorting of products according to size or quality.

GRAS — Terminology used to denote a perfumery material to be 'Generally Recognized As Safe' for use or application in products.

Grassy — Green and leafy with a slight touch of sweetness. An odour or flavour suggestive of green or freshly cut or recently mown grass.

Green/Green Note — Odour notes that recall freshly-cut/crushed grass, green leaves and stems or other parts of plants or connoting 'fresh, leafy scent'.

Gum — A natural water soluble anionic material, often of glycoside-like structure and of high molecular mass which collects in or exudes from certain plants. It forms neutral or slightly acidic solution or a sol with water and has a typical mild odour. In trade this term is also loosely used for "gum resin" as they come out of the plant materials.

Gum Resin — Natural exudation from plants and trees consisting of gums and resins with small amounts of essential oils. In trade, it is loosely called as "gum".

Gust — A unit of gustatory intensity relating to the threshold of a given substance.

Gustation — The act of tasting; the sense of taste; the process of tasting.

Gustative/Gustatory — Of or pertaining to the sense of taste.

H

Halogen Note — Sharp, pungent odours characteristic of chlorine or bromine or iodine.

Harmonious — Order, accord, and unity in a fragrance.

Harsh — Describes a 'crude, unbalanced, rough, pungent odour'. Lacking harmony or smoothness.

Hay — Odour evocative of the sun-dried hay which is sweet, warm, mellow and rustic. 'Sweet clover odour reminiscent of coumarin'.

Heated — Characteristic odour/flavour caused by excessive and/or prolonged heating during processing, particularly when any material is thermally processed.

Heavy — A forceful and intense effect. Odour that is powerful, stimulating and intoxicating. The terminology is also used in connection with 'Oriental balsamic as against floral/green' odour characters, for example, Tagetes oil.

Hedonic — Pertaining to pleasurable or unpleasurable experiences.

Herbal/Herby/Herbaceous — Pertaining to or resembling the odour of aromatic herbs. Connotes odours which are "grassy-green, spicy and somewhat medicinal".

Hesperidic — Fruity odour of the grapefruit, lemon, orange, tangerine, bergamot type.

High Performance Liquid Chromatography — High-Performance Liquid Chromatography is a scaled-down and automated version of liquid chromatography. The method is rapid and the large number of theoretical plates results in high resolution at ambient temperature. Also thermolabile compounds will not get decomposed which can happen in the case of GC. Bigger molecules can be analyzed. As with other chromatographic techniques, the equipment has to be calibrated and does not provide an absolute identification of the chemical identity of the material under test.

Hircine — A goat-like odour.

Honey — An odour which has sweet, heavy, syrupy/balsamic sweet characteristics with a waxy background.

Hydro Distillation — See 'Distillation, Hydro'.

I

IFRA — International Fragrance Research Association, Geneva, Switzerland.

Incense — Any pleasant smell reminiscent of the fragrant fumes generated by the burning of a mixture of gums and resins, etc (for example, Olibanum, benzoin, styrax, cascarilla bark).

Infrared Spectroscopy — It is an analytical method by which a sample, in a solvent or as a solid in a pellet of potassium bromide, is scanned and the absorbance recorded as a function of wavelength, the resulting spectrum provides information on the interatomic bonds, which have characteristic frequencies that fall within the infrared range. It is an important analytical tool for the identification of functional groups.

Infusion — A process of treating a substance with water or organic solvent, with or without heating. See also "Tincture".

Intense — Odour effect conveying the impression of a 'Concentrated'/powerful odour.

Intensity — A quantitative attribute of a sensation approximately proportional to the physical energy of the stimulus, such as brightness of colours, loudness of sounds, and concentration of odour or taste components.

Irritancy — The property of a substance to provoke an abnormal and unhealthy condition in the body.

Irritation — The most common and generally the least the serious hazard for dermal contact. It is a Non-Allergic (Non-Immunologic) inflammatory reaction that occurs at the site of exposure of the substance either on initial exposure (Primary Irritation) or after repeated exposure to the same site (Cumulative Irritation).

Irritant — Any substance that causes irritation producing an unhealthy condition such as reddening of the skin, eye and generally mucous membrane.

Isohedonic — Equality in degree of pleasantness and unpleasantness.

Isolate — Either a single constituent or a multi-component fraction or a composite fraction, rich in the desired odoriferous components and derived from a natural fragrance material.

J

Judge — Examiner with some experience and/or training regarding the test problem.

Just Noticeable Difference (JND) — The smallest detectable difference between two stimuli.

L

Labelling — A process that permits the identification and characterization of the contents of a container by means of a label, a necklace, an inscription, which does not form part of the container.

Lasting Qualities — The ability of a fragrance to retain its character over a given period of time.

LD50 — See "Toxicity, Acute, Chronic and Sub-Chronic".

Leafy — One of a variety of green notes potentially present in a fragrance.

Leather/Leathery Note — Characteristic odour which is pungent and smoky but with a slight sweetness (frequently described as "phenolic"). Any fragrance conveying the dominant odour characteristic of tanned leather.

Lift — Refers to a 'brilliant top note with wide diffusiveness', of a fragrance.

Light — Connotes an odour that is 'neither sweet nor cloying with a fresh note that is predominant'.

Liquor — Odour characteristic which is usually 'sweet and fruity with a flavour top note and alcoholic overtones'.

Luxurious — Used to denote an odour which is delightful.

M

Malty — Having a flavour/odour suggestive of malt.

Manufacturing — All operations involved in the production of a fragrance material including processing, compounding, packaging and labelling. However, only repackaging and relabelling in smaller packs shall not constitute manufacturing operations.

Marine — Odour note which is the smell of the sea, given by the Absolutes of various seaweeds.

Marking — A process that permits the identification and characteristics of the contents of a container by means of a mark, a stamp, a picture, which forms part of the container.

Masking — In odour, flavour, or taste applications it is a component quality within a mixture which dominates or over-rides another quality or other qualities present, thus changing the quality of the perceived resultant without benefit of chemical interaction of the component themselves.

Mass Spectrometry — A mass spectrometer (MS) is an instrument used for the determination of mass of organic molecules, isomer distribution, the location of side chains and the degree of branching in chemical molecules. However, it is an expensive and specialized analytical technique requiring highly-trained operators. The linking of the separated fragmented products [of various weight and charge characteristic for the given material and which can be separated by a magnetic field according to their mass/charge (m/z) ratios, obtained as a result of the bombardment of a material with a stream of high energy electrons] obtained by gas chromatography (GC-MS) has proved of immense value to industry.

Matching — The process of equating or relating, pair by pair, for experimental purposes, usually to determine the degree of the similarity between a standard and unknown, or two unknowns.

Medicinal — Having an odour of flavour reminiscent of medicine.

Mellow — Mild soft, balanced, smooth, Aged/mature and rich odour/fragrance or flavour.

Melting Point — The temperature at which a solid material melts and becomes liquid throughout.

Melting Range — The range between temperatures at which a solid material begins to fuse and form droplets and at which it becomes liquid throughout.

Merosmia — A condition analogous to colour blindness in which odours are not perceived.

Metallic — Having an odour or taste sensation reminiscent of metals, usually unpleasant. Characteristic of processed materials which have been in prolonged contact, under suitable conditions, with metallic surfaces during crushing or mixing or pressing or storage.

MID — Minimum Identifiable Difference; difference threshold.

Middle Note — The main overall odour effect experienced by the olfactory nerves on smelling a strip impregnated with a perfumery material and exposed to the atmosphere for some time.

Mild — Refers to the gentle, soft calm effects of an odour or fragrance, pleasantly affecting the senses.

Minty — Characteristic odour notes as exemplified by spearmint and peppermint.

Modern — Used loosely to describe fragrance compositions containing aliphatic aldehydes, to the extent they are observable in the top note.

Modern Blend — An harmonious conception of a creative perfumer of an odour complex or fragrance.

Monadic — Consisting of units along one continuum.

Mossy/Mossy Note — Odour which is earthy, green, herbaceous, and ferny, but is primarily suggestive of the aromatic lichens and mosses, particularly, oakmoss and the tree moss. Odours embodying those of greenery and damp forest depths.

Mouldy — An odour or flavour suggestive of moulds or a fungus.

Mouthfeel — The mingled experience deriving from the sensations of the skin in the mouth during and/or after ingestion of a food or beverage. It relates to density, viscosity, surface tension and other physical properties of the material being sampled.

MTD (Maximum Tolerable Dose) — A term used in Toxicological Assay of a substance.

Mushroomy — An odour tending to be 'pungent, musty, with some earthy green notes'.

Musky — Odour note that has a delicately "animal" smell.

Musty — An odour that is mouldy, damp, and possibly even fungal, reminiscent of the atmosphere of an unventilated room. Characteristic odour or flavour

obtained from materials which have undergone an advanced stage of fermentation.

Mutagen — A substance which produces mutations or changes in the structure of the cells of the body organs, that is, which induces abnormal cell growth.

Mutagenicity — The ability of a substance to produce mutations or changes in the structure of the body cells.

N

Natural — Having a normal or usual character.

Natural Odourous/Odoriferous Materials — Fragrance/flavour materials of natural origin.

Nauseating — Odour impression causing revulsion of the stomach.

Neurotoxicity — It is the toxic effect due to a material on the nervous system.

Neutral — Without any characteristic taste or aroma.

Noael (No Observed Adverse Effect Level) — A terminology used in toxicological assay of substances.

NOTE — A specific component of an odour or flavour.

Nuance — A term used to express a delicate or shade of difference of odours/flavours.

Nuclear Magnetic Resonance Spectroscopy — It is an analytical tool which helps in elucidation of the structure of a molecule isomers. When a sample is subjected to a high magnetic field, it causes the nuclei of various atoms to orientate in one of two energy levels. If energy is applied to the nuclei they will change their orientation. This is the basis of nuclear magnetic resonance (NMR) spectroscopy.

Numbing — Anaesthetic property of compounds such as eugenol.

Nutty — Odour with the hint of oiliness generally associated with crushed nuts and the bitter almond note exemplified by benzaldehyde.

O

Odorant — A substance which stimulates the olfactory receptors.

Odour — That property of a substance which stimulates the nervous system and is perceived by the olfactory sense. Impression derived by smelling or sniffing.

Odour Memory — See "Flavour Memory".

Oily — Odour reminiscent of those of fixed oils like Linseed oil, coconut oil, sesame oil, etc. An odour effect producing a greasy sensation.

Off - Odour — Detracting from main characteristic odour.

Off-Taste — Having abnormal taste other than characteristic taste.

Old — Characteristic odour or flavour of material that has been kept too long in storage containers. This odour or flavour also appears in materials which have been packed for an excessively long period.

Oleoresin — Natural exudation from tree trunks or barks of trees consisting entirely or mainly resinous matter accompanied with an essential oil in varying percentage, soluble in organic solvents and extracted by solvent extraction.

Oleoresin Gum — An exudation from plants mainly consisting of essential oil, resin and gum.

Oleoresin, Spice — Extractibles of spice having resin and essential oil, obtained by solvent extraction.

Olfactometer — An instrument for controlled presentation of odour stimuli, used for measuring thresholds and other quantitative values.

Olfactory Coefficient — The smallest volume of vapour of a substance necessary for identification of its odour.

Optical Rotation — It is the angle in degrees through which the plane of polarization is turned when plane-polarized sodium light is passed through a layer of the liquid fragrance/flavour material 100 mm in thickness. From the viewer's point of view if the rotation of the plane of polarization is in the 'clockwise' direction it is 'dextro-rotatory', and in the anti-clockwise direction it is 'laevo-rotatory'.

Organoleptic — Pertaining to sensory perception of odour and taste through nose and palate respectively.

Oriental Blend — See "Blend, Oriental".

Osmyl — An odorous substance.

Oxidized — Having an odour or flavour defect associated with oxidation.

P

Paired Comparison Method — A psychometric or psychophysical method in which stimuli (samples) are presented in pairs for comparison on the basis of some defined criterion, such as preference, intensity and degree of a defined quality. The traditional form requires that each sample in a series be compared with every other member in the series.

Paired Preference — Paired comparison method using the preference criterion.

Palatable — Pleasing to taste, and hence acceptable.

Panel — A group of people (observers, subjects, judges) comprising a test population which has been specially selected or designated in some manner, for

example, they may be trained, or have special knowledge or skills, or may merely be available and predesignated.

Panel Leader — The person responsible for organizing, conducting, and directing a panel performing the odour or flavour assessment.

Penetrating — Sharp/piercing sensation experienced by the olfactory nervous system.

Peppery — Warm, dry and spicy odour character and sharp burning taste.

Perfume — A solution of perfumery compound/fragrance compounds in ethanol or any other suitable solvents, meant for use as a personal adornment. Here ethanol or other suitable solvents are used as carriers for the fragrances. It is the strongest, most highly concentrated realization of a particular fragrance in alcohol.

Perfume Concentrate — A non-alcoholic concentrated fragrance or flavours blend that is basically a mixture of odoriferous substances formulated for a particular end use but not suitable for use as it is and serving as a raw material for consumer products.

Perfumery Compound — A mixture of odoriferous substance that is not for personal use but is a base which is further diluted with or without toning and further modifications to suit various end-uses.

Perfumery Grade Alcohol — See "Alcohol Perfumery Grade, Denatured".

Persistent — Tenacious odour note, which continues to remain even after a long time of evaporation.

Phenolic — Odour note characteristic of phenol/cresols, commonly described as 'powerful disinfectant' odours.

Photo-Reaction — Less common dermal reaction which is induced only by dermal exposure both to the substance and ultraviolet (UV) light. Thus the reaction can be either "Irritant" (Photo-active or photo-toxic) or "Allergic" (Photo-sensitising).

Piney — Characteristic fresh, forest-type odours reminiscent of pine-trees/pine cones/pine needles.

Plain — Lacking in character, body and odour/flavour.

Plant, Aromatic — Plant bearing essential oil possessing characteristic aroma.

Pleasant — That which is agreeable, in harmony with one's tastes or likings.

Pomade — The refined and deodorized animal fat(s) saturated with the volatile odoriferous oils present in and exhaled from the flowers especially the rose and jasmine. This process is obsolete and no longer followed.

Powdery — An odour effect suggestive of a dry powder.

Powerful — Odour sensation which is intense, impressive and giving the suggestion of having greater strength.

Precious Woody — Woody notes which are very highly esteemed and which are characteristic or reminiscent of Sandalwood, Patchouli, Vetiver, etc.

Preference — Expression of high degree of liking. Choice of one object relative to others. Psychological continuum of affectivity (Pleasantness — Unpleasantness) on which such choices are based. This continuum is also referred to as that of degree of liking and disliking.

Pungent — A sharp, stinging, or painful sensation of an odour or flavour, such as that of aldehyde C9 and aldehyde C10.

Putrid — Unpleasant odour or flavour associated with proteolytic spoilage.

Q

Quality — An aspect, attribute, characteristic, or fundamental dimension of experience, which involves variation in kind rather in degree. The composite of those characteristics that differentiate among individual units of a product and have significance in determining the degree of acceptability of that unit by the user. An aesthetic standard for a product usually set by experienced users. Conformity of a fragrance material with its olfactory, physical and chemical specifications and conformity of its production and control with the basic standards of good manufacturing practice.

Quenching — For a few materials that exhibit sensitization under normal conditions but in the presence of certain other materials known as 'Quenching Agents' the sensitization seems to be suppressed.

R

Rancid — Characteristic odour or taste common to old/auto-oxidized oil or fat.

Rectification — Method of separation of undesirable substances to upgrade or improve the quality of materials achieved by fractional distillation.

Reference Sample — See "Standard".

Refractive Index — The ratio between the sine of the angle of incidence and that of the angle of refraction when a beam of light of fixed wavelength passes from the air into the substance. Measurements are usually made at 27°C.

Refreshing — Odour impression which is pleasantly cooling and invigorating.

Relative Density — The ratio of the density of a material at 27°C to that of distilled water at 27°C or 4°C. Originally, it was known as specific gravity.

Reproductive Toxicity — Adverse effects on the process of reproduction that may occur from exposure to a substance. Such effects range from decreased fertility to birth defects (Teratogenicity).

Residual Note (Dry-Out Note) — An odour effect experienced by olfactory nerves on smelling a strip impregnated with a fragrance material and exposed to the atmosphere for a long period of time when the top or middle notes have disappeared.

Resin — Solid or semi-solid translucent exudation from trees or plants. These are soluble in organic solvents.

Resinoid — A semi-fluid or a solid material obtained from a single resinous source of plant origin by extraction with a suitable solvent and is free from the solvent used in the process.

Resinous — Connotes odours of gums exuded from trees particularly pines and other evergreen trees that have gums and resins both in the exudation.

Rich — Odour characteristic possessing depth and fullness of body.

RIFM — Research Institute of Fragrance Materials, U.S.A.

Ripe/Ripely Fruity — Odour or flavour obtained from or reminiscent of ripe fruit.

Rooty — Characteristic odour notes reminiscent of the fresh roots of a plant.

Rough — Characteristic perception associated with harshness/crudeness/ruggedness/coarseness/lack of sophistication.

Rounded — A fragrance balanced to perfection and whose first whiff immediately suggests balance, smoothness and harmony.

Rubbery — Having an odour or flavour reminiscent of rubber.

S

Sample — A specimen or aliquot presented for inspection.

Saponification Value — It is numerically equivalent to the number of milligrams of potassium hydroxide required to neutralize the free acids liberated by the hydrolysis of the esters present in 1 g of the material. It represents the sum of the acid value and ester value.

Saponification Value after Acetylation — It is numerically equivalent to the number of milligrams of potassium hydroxide required to neutralize the free acid

and the acids liberated by the hydrolysis of the esters present in 1 g of the acetylated product.

Sappy — Characteristic fresh odour note reminiscent of the vital juice produced by the sapwood of a tree.

Scent — A characteristic odour, often subtle.

Scorched — Intensified cooked generally unpleasant odour or flavour and discoloration due to burnt particles.

Sensitizer — Any substance which is capable of affecting the senses abnormally and renders any part of the body sensitive to a high degree and susceptible to pain.

Sensitization — Skin Sensitization or Allergic Contact Dermatitis is similar in respect to irritation but generally the reaction appears from 24 to 48 hours after exposure to the material. Unlike irritancy, often increases in intensity over 2 to 3 days after exposure to the material has ceased. It is the abnormal responsiveness to an allergen. Very rarely certain perfumery materials affect the skin resulting in abnormal skin conditions like rashes, urticaria, irritation and such reactions.

Sensory — Pertaining to the action of the sense organs.

Sesquiterpene — A term denoting a hydrocarbon composed of one and a half terpene units, a single terpene unit being equal to two isoprene units.

Sesquiterpeneless Oil — An isolate obtained by suitably removing the sesquiterpenes ($C_{15}H_{24}$) hydrocarbons from an essential oil.

Sharp — Connotes strong, penetrating and often pungent qualities giving an intense or painful, localized reaction, for example, various acids and alcohols.

Sickly — Odour producing an unpleasant, disgusting/vomiting sensation.

Smell — To perceive by excitation of the olfactory nerve.

Smoke Point — It is a measure of a material's stability when heated in contact with air. It is the temperature at which smoking is first detected in laboratory apparatus protected from air drafts and provided with special illumination. The temperature at which the material smokes freely is usually higher.

Smoky — Having a burnt odour or flavour. Odours of a kind given by odoriferous woods or smouldering leaves and twigs.

Smooth — A harmonious, balanced and rounded character devoid of harshness/roughness in odour/flavour and taste.

Sniff — To evaluate an odour by drawing air audibly and abruptly through nose.

Soapy — Odour or flavour that is reminiscent of that produced by soap.

Soft — Affecting the senses in a gentle way; devoid of coarseness, or like qualities offensive to smell/taste.

Solubility in Alcohol — See "Alcohol Solubility".

Solventy — Odour reminiscent of common solvents like alcohol, acetone, hexane/petroleum ether, benzene, toluene, xylene, etc.

Sophisticated — An abstract creative interpretation.

Sour — The odour or taste sensation caused by acids.

Specific Gravity — See "Relative Density".

Spectroscopy — It is the study of spectra, including the excitation of the spectrum, its visual or photographic observation, and the precise determination of the wavelengths.

Spice Oleoresin — See "Oleoresin, Spice".

Spicy — Odours characterized by pungency and sharpness that stimulates the senses of smell and taste, as experienced with products, perfumed or flavoured with, containing, or characteristic of a spice or spice complex; aromatic; piquant; pungent.

Stale — Not fresh, vapid, or tasteless from age, such as stale bread, stale beer, or stale non-fat milk powder.

Standard — A sample presented as a model or example, the standard sample conforms to a specified level or degree of quality.

Starchy — Resembling the aroma or flavour or mouthfeel of uncooked starch.

Steam Distillation — See "Distillation, Steam".

Still Note — Characteristic unpleasant, burnt/cooked odour notes of the residual matter in the distillation still, as a result of overheating during the end stages of distillation which sometimes disappear on ageing.

Stimulating — It is the ability of a material to stimulate or excite the olfactory sense.

Stimulus — That which excites a sense organ.

Stink — Negative hedonistic sensation(offensive).

Strength — The relative intensity of a fragrance impression.

Subjective — Pertaining to individual experience.

Substantive/Substantivity — The odour property of a material which is durable, enduring and long-lasting on a substrate or surface.

Sub-Chronic Toxicity — See "Toxicity, Acute, Chronic, Sub-Chronic".

Sultry — An 'oppressive' odour sensation as if overpowered by heat. In fine perfumery, this attribute is desirable one in the creations of fragrance for men.

Supercritical Fluid Extraction (SFE) — A latest technological extraction process which utilizes the ability of compressed gases, when used above their critical temperatures, to act as solvents. Carbon dioxide gas which conforms to these requirements is used for the extraction of natural products. The extract so obtained is called 'Supercritical CO₂ Extract' and the process is known as 'Supercritical CO₂ Extraction'. The process enables the compounds to be fractionated or the more soluble compounds can be concentrated through a series of temperature and pressure changes. The process has been used with spices and mushrooms. A similar operation using butane at subnormal temperature is also successfully used for extraction of delicate plant aroma ingredients.

Sweet — A term which describes a rich fragrance with the ambrosial characteristics of a sweet taste or a pleasant odour which is smoother or softer.

Synthetic Fragrance Flavour Materials — Man-made single aroma/flavour materials obtained by chemical synthesis/process/isolation from natural products.

T

Tabac/Tobacco — An odour note which is primarily pungent (arising from tobacco during drying, curing and casing processes) with a light touch of background green odour notes/sweet, somewhat pungent, hay-like and slightly green smell of tobacco pouch. These type of odour notes help create men's fragrances.

Tail Running — The last fraction of the distillate obtained in a distillation process.

Taint — A general flavour or odour defect.

Tallowy — Having an odour or flavour defect suggestive of tallow.

Tangy — An odour sensation resembling a sharp, tart taste especially characteristic of peels of citrus fruits.

Tarry — Suggestive of the odour of tar, such as the odour of carvacrol.

Tart — Impression produced by sharp, biting/acidulous odour sensation.

Taste — Impression made by certain soluble substances in the mouth. Salty, sour, sweet, and bitter are basic tastes.

Tenacity/Tenacious — The property of an odoriferous substance which has persistence and capable of being perceived beyond a given length of time under specified climatic conditions.

Teratogen — An agent that affects the genes in a cell raising the incidence of congenital malformations.

Teratogenic/Teratogenicity — The property of a substance capable of changing the gene structure resulting in congenital malformations.

Terpeneless Oil — An isolate obtained by removing almost all monoterpenes ($C_{10}H_{16}$) hydrocarbons from an essential oil.

Terpenic/Terpeny — Suggestive of the odour of terpene hydrocarbons.

Thin — Lacking in body and richness, and evaporating quickly strength, relative to odour/flavour.

Threshold — A statistically determined point on the stimulus scale at which occurs a transition in a series of sensations or judgements. Thresholds are of four kinds:

- a) The threshold of sensation, stimulus, stimulus threshold, or absolute threshold, often designated as RL, is that magnitude of stimulus at which a transition occurs from no sensation to sensation.
- b) The difference threshold is the least amount of change of a given stimulus necessary to produce a noticeable change in sensation. It is often designated as the DL, and the interval or units as the JND (just noticeable difference).
- c) Recognition or identification threshold is that magnitude of stimulus necessary for correct identification.
- d) The terminal threshold is that magnitude of a stimulus above which there is no increase in the perceived intensity of the appropriate quality for the stimulus.

Tincture — A cold alcoholic extract of the soluble part of a natural fragrant material of plant origin, the solvent being left in the extract as a diluent. A solution obtained with the prolonged contact with alcohol. Animal products and some plant materials are usually treated in this manner.

Tissue — Plant structure composed of cells.

Toilet Water — See "Cologne".

Top Note — Initial fragrance impression. The first odour which is perceived when smelling a product. It usually consists of the most volatile portion of a fragrance composition.

Toxicity — Adverse effect that occurs after a short exposure of the material.

Toxicity, Acute, Chronic and Sub-Chronic

- a) *Acute Toxicity* — Adverse effect that occurs after a short exposure, often with a single dose of the material. The common method for expressing 'acute toxicity' is the LD 50, that is, the theoretical dose necessary to kill 50 percent of a population.
- b) *Chronic Toxicity* — Adverse effect that involves most of the life of the test animal.
- c) *Sub-Chronic Toxicity* — Adverse effect that involves a significant fraction of the life of the test animal.

Triangle Difference Testing, Method of — The test unit consists of three samples. All three are coded so that they are unknown, but the examiner is told that two are alike and one is different. It is his task to pick the sample which is different from the other two.

Turbid — Cloudy, muddy, unclear.

U

Ultraviolet Spectrophotometry — The technique of ultraviolet (UV) spectrophotometry is based on the principle that many molecules absorb ultraviolet light and by scanning samples with UV radiation spectra can be obtained which are characteristic of the particular molecules being scanned. Information provided by UV spectroscopy is usually limited to showing the presence or absence of an aryl group or an aliphatic chain containing conjugated double bonds and conjugated carbonyl groups.

Unbalanced — Olfactory impression or taste produced by excessive amounts of one constituent or another, causing odour disharmony.

Unctuous — Odour sensation conveying a characteristic oily/greasy feeling.

Undertones — The subtle characteristics of the fragrance background.

Uniform — Not changing in odour/flavour character.

Use Test — A test aimed at eliciting from the consumer reactions to one or more products after a period of use.

V

Vacuum Distillation — See "Distillation, Vacuum".

Vacuum Distillation Residue — It is the percentage of material left behind undistilled when a known quantity of the material is distilled in vacuum at specified temperature and pressure.

Vapour Pressure — The vapour pressure of a substance is the pressure exerted by a vapour in

equilibrium with its solid or liquid at a particular temperature.

Vegetable — Characteristic odours given by freshly sliced vegetables.

Velvety — Odour characteristic which is soft and smooth, lacking harsh chemical notes.

Vinegary — Characteristic sharp, pungent odour or flavour reminiscent of vinegar. It is mainly due to the formation of acetic acid.

Viscous — Thick.

Volatile/Volatility — The physical property of a material evaporating at room temperature when exposed to atmosphere. The property of being freely diffused in the atmosphere.

W

Warm — Odour characteristic which is 'stimulating, full-bodied, rich and possessing depth'.

Water Distillation — *See* "Distillation, Hydro".

Waxy — Having an odour or flavour resembling that of wax.

Whiffing — A short, quick, sniffing procedure.

White Flowers — Floral notes reminiscent of a bouquet of white flowers such as Jasmine, Tuberose, Lily, Gardenia, Hyacinth, etc.

Winey — Characteristic odour or flavour reminiscent of wine. It is mainly due to the formation of ethyl acetate and ethanol in large amounts.

Wintergreen — Characteristic 'Medicated' note reminiscent of Methyl Salicylate.

Woody/Woody Note — Odour or taste impression suggestive of aromatic woods or roots within the fragrance theme.

Woody Blend — *See* "Blend, Woody".

Y

Yeasty — Resembling that of yeast fermentation.

ANNEX A

(Foreword)

COMMITTEE COMPOSITION

Natural and Synthetic Fragrance Materials Sectional Committee, PCD 18

<i>Organization</i>	<i>Representative(s)</i>
Bush Boake Allen (India) Ltd, Mumbai	DR G. S. RANADE (<i>Chairman</i>) SHRI A. BEWOOR (<i>Alternate</i>)
Camphor & Allied Products Ltd, Bareilly	DR A. P. SINGH DR B. S. PANDE (<i>Alternate</i>)
Carishma Food Consultancy Services, New Delhi	DR J. S. PRUTHI WG. CDR P. S. PRUTHI (<i>Alternate</i>)
Central Food Technological Research Institute, Mysore	DR N. KRISHNAMURTHY DR K. M. APPALAH (<i>Alternate</i>)
Central Institute of Medicinal Aromatic Plants, Lucknow	DR SUSHIL KUMAR DR A. K. SINGH (<i>Alternate</i>)
Central Revenues Control Laboratory, New Delhi	THE CHIEF CHEMIST THE DEPUTY CHIEF CHEMIST (<i>Alternate</i>)
Directorate of Marketing & Inspection, Faridabad	DR G. R. BHATIA SHRI S. PRASAD (<i>Alternate</i>)
Essential Oil Association of India, New Delhi	PRESIDENT VICE PRESIDENT (<i>Alternate</i>)
Fragrances and Flavours Association of India, Mumbai	PRESIDENT VICE PRESIDENT (<i>Alternate</i>)
Fragrance & Flavours Development Centre, Kannaui	SHRI K. N. DWIVEDI DR ALOK LAHIRI (<i>Alternate</i>)
Forest Research Institute and Colleges, Dehradun	SHRI G. S. RAWAT DR D. C. CHAUDHARI (<i>Alternate</i>)
Gupta & Co Ltd, Delhi	SHRI SUDHIR JAIN SHRI SHIAM BEHARI LAL (<i>Alternate</i>)
Hindustan Lever Ltd, Mumbai	SHRI C. K. LAGOO DR V. R. GADGIL (<i>Alternate</i>)
Indian Pharmacopoeia Committee (Ministry of Health & Family Welfare), New Delhi	SHRI ASHWINI KUMAR DR S. K. TALWAR (<i>Alternate</i>)
Institute of Himalayan Bioresources Technology, Palampur (H.P.)	DR V. K. KAUL
Karnataka Soaps and Detergents Ltd, Bangalore	SHRI S. S. REVADI DR K. B. PATIL (<i>Alternate</i>)
Ministry of Industry, Government of India, New Delhi	SHRI SHAISH KUMAR SHRI B. B. SHARMA (<i>Alternate</i>)
National Bureau of Plant Genetic Resources, New Delhi	DR S. K. PAREEK
Nishant Aromas, Mumbai	SHRI RAMAKANT HARLALKA
Procter & Gamble India Ltd, Mumbai	DR ARUN VISHWANATH SMT SHWETA PURANDARE (<i>Alternate</i>)
Regional Research Laboratory, Itanagar	DR R. K. MATHUR
Som Extracts Ltd, Delhi	SHRI S. C. VARSHNEY SHRI SANJAY VARSHNEY (<i>Alternate</i>)
Synthite Industrial Chemicals, Cochin	SHRI GEORGE PAUL
The Development Commissioner Small Scale Industries, New Delhi	SHRI S. R. SINGH SHRI D. P. SINGH (<i>Alternate</i>)
Ultra International Ltd, New Delhi	SHRI SANT K. SANGANERIA SMT BHUVNA NAGESHWARAN (<i>Alternate</i>)
In personal Capacity (8E, Street E, SFS Flats Mayapuri New Delhi-110064)	DR M. L. MAHESWARI
BIS Directorate General	SHRI ANJAN KAR, Director & Head (PCD) [Representing Director General (<i>Ex-officio</i>)]

Member-Secretary
SHRI T. KALAVANAN
Joint Director (PCD), BIS

Bureau of Indian Standards

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